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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/444,819	11/22/99	KIKUCHI	10417-006001

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MMC1/0620

EXAMINER
RAU.S

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 06/20/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p>09/444,819</p>	<p>Applicant(s)</p> <p>KIKUCHI ET AL.</p>	
	<p>Examiner</p> <p>Steven H. Rao</p>	<p>Art Unit</p> <p>2814</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 11-16 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-4, 8-10 & 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- |  |  |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____     | 20) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4,8-10 and 17 are, drawn to a device, classified in class 257, subclass 409.
- II. Claims 5-7,11-16 and 18, drawn to a method of making a semiconductor device, classified in class 438, subclass 454.

The inventions are distinct, each from the other because of the following reasons:

Inventions Groups I and II are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the group I device are not limited to those made by the method claims i.e. the device as claimed can be made by a materially different method namely instead of the recited implanting of impurities can be doped by diffusion.

Because these inventions are distinct for the reasons given above and the search required for Group 1 is not required for Group 11, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Richard P. Ferrara @ (212) 765-5070 on December 14,2000 a provisional election was made with traverse to prosecute the

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invention of Group I, claims 1-3,8-10 and 17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5-7,11-16 and 18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required incorporating the changes required by the draftsman in the enclosed PTO-948 .

Applicants' are reminded of the new provisions , "regardless of whether the objection is indicated on a Pto-948 or in an Office Action, correction( or a proposed correction ( see 37 CFR 1.121 (d) is required in reply to the Office Action and examiners may not permit corrections o be held in abeyance."

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,8-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanchard ( U.S. Patent No. 5869371, herein after Blanchard) as applied to claim\*\*\* above, and further in view of \*\*\*.

With respect to claim 1, Blanchard describes a semiconductor device including : a source region ( Blanchard fig. 2 F # 124, col. 6 line 10) , a channel region ( area between source 124 and drain 126), a drain region ( fig. 2 F # 126), a gate electrode on channel region ( fig. 2 F # 122, col. 6 line 1), and a drift region between channel region and drain region ( Fig. 2F portion of drain with shallower implant), wherein the drift region is formed shallowly below the gate and formed deeply in a neighborhood of the drain region ( Fig. 5 A- 5C , col. 6 lines 25 –33).

With respect to claim 2, Blanchard describes a semiconductor device including : A first conductivity type well region formed in a first conductivity types semiconductor substrate ( figs. 5 A –5C). The other elements of claim 2 namely the source, channel drain and drift regions ( see claim 1 above).

With respect to claim 3, Blanchard describes a semiconductor device including : Implanting the second conductivity type drift region with two different impurities having different coefficients so as to form shallow and deep drift regions. ( col. 4 lines 2-7).

With respect to claim 4, Blanchard describes a semiconductor device including : Arsenic and phosphorus as second conductivity implant and boron as first conductivity type implant. (col. 4 line 61-boron, col. 4 line 66 arsenic and col. 10 lines 1-5).

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With respect to claims 8 and 9 , Blanchard describes a semiconductor device including :

First and second MOS transistors ( See figs. 1 G and 5A col. 6 lines 25-35). The rest of the elements are similar to that described in the claims above.

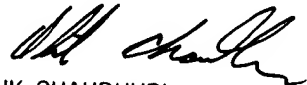
With respect to claim 10 , Blanchard describes a semiconductor device including : a LDMOS transistor and a high break down voltage MOS transistor ( Blanchard col. 6 lines 25-33).

With respect to claim 17 , Blanchard describes a semiconductor device including : wherein the semiconductor device is arranged in plural via an element isolation film ( Blanchard Fig. 2G # 134, col. 6 line 14) and a channel stopper layer formed under the element isolation film ( Fig. 2 G # 130, col. 6 line 14-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703- 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-0956.

  
OLIK CHAUDHURI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

SK  
6/14/01